

# STATISTICAL ANALYSIS OF VARIATIONS OF CARDIO- RHYTHM

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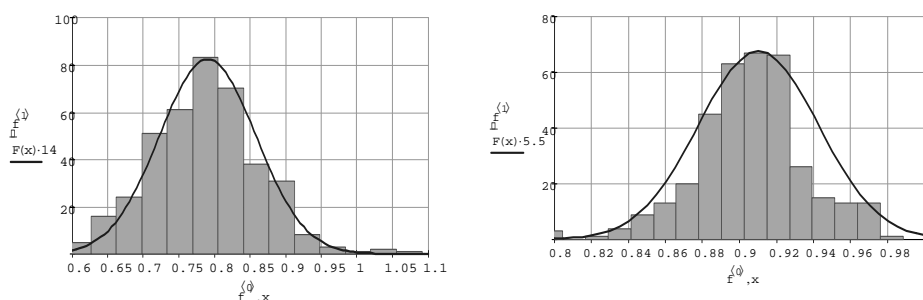
The heart-blood system executes an important role in an organism. It is necessary for his normal functioning. Diagnostics of functioning of this system occupies one of above all places in medicine. Development of computer technique allowed to made this diagnostics with the use of mathematical methods.

One of new methods of study of the state of the heart-blood system by the mathematical analysis is cardio-interval-method. It studies the change of rhythm of heart as reaction of organism on external influence. This method characterizes by simplicity of registration of signals – peaks of cardiograms or other signals, caused by operation of heart.

The sequence of cardio-intervals contains information about processes, flowing not only in a heart but also in the different links of the control system of organism: nervous interlacements, ductless glands, nerve-centers of brain.

There are a few time of measuring of signals of heart - 3 min., 5 min., 10 min., 1 hour and other intervals up to 1 days and a few days. At large time of analysis the changes of cardio-rhythm show up with a period from a few seconds to a few days are «slow waves» bearing important state information organism of the explored object.

The analysis of 5-min rows of information is conducted about the cardio-rhythm of two persons of different age. On the basis of the measured information some generalized parameters were calculated: frequency of pulse reductions, coefficient of variation, index of tension, is built and analyzed histogram of distributing of values of periods of pulse.



Histograms of distributing of periods of cardio-rhythm